



# **LANGUAGE ONLINE LEARNING SYSTEM AND METHOD INTEGRATING LOCAL LEARNING AND REMOTE COMPANION SPEECH LEARNING**

## **BACKGROUND OF THE INVENTION**

### **5 Field of the Invention**

The invention generally relates to a language learning system and method, and in particular relates to an online companion language learning system and method integrating local learning and remote user speech learning.

### **Related Art**

10 Foreign language is an essential tool to learn and share information of international culture and science knowledge and to achieve communication. In the competition and fellowship of international affairs, language always plays a role of intercommunication among countries and crossing over boundaries.

In accompany with global developments of economic affairs and scientific  
15 technology, language, especially oral communication, is extremely practical and useful. Oral communication is not a simple comprehension or static knowledge, but a dynamic and interactive process of information intercommunication. Speaking of a language is a capability of the speaker that reflects the achievement of description, response, phrase using, mood, accent and so on. In order to obtain techniques of language speaking, one has to be  
20 happy to learn and to speak and practice frequently.

There are some foreign language training schools that provide curriculums of oral training for small class participants. Though the participants have chance to interact with others, intensive individual instructions cannot be provided to the students because teachers are limited.

As computer and multimedia technologies being developed, people try to use computer for helping their language learning. Some real-time and interactive communication are made. However, most training media are just of real voice dialogue plays. Some online speech learning are users taking free talks without certain topics. 5 Because of the free talks, the achievement of learning cannot be measured. For learning a language, some major fields such as work, life or entertainment, can be specified; further some detailed scenes, such as talking on trades or talking for interview or others, can be provided. When online participants take only free talks, they don't have a distinct topic to practice and cannot get an effective learning. Therefore, it is a demand to apply computer 10 network technology to language-learning that the users not only practice on specific topics but also enjoy online interactive speech learning. The ideal learning system provides online conversation and achievement measurements so that the users can notice their insufficiency and take effective practices.

### **SUMMARY OF THE INVENTION**

15 The object of the invention is to provide a language learning system and method that integrates local and remote online users for real-time speech learning through computers. The system and method helps the users practice talking on a certain topic and accomplish the learning. It also monitors the user's achievement and instructs the user to improve the learning.

20 A learning system according to the invention applies computer network and achieves an online language-learning through integration of local learning and remote companion speech learning. The users can take online speech learning and intercommunication based on the curriculum contents. The system includes a curriculum database for storing multimedia contents (text and pictures, etc.) of at least a curriculum 25 topic for the users to refer during talking; a local learning module for getting correspondent contents from the database according to the selected curriculum topic; a curriculum coding module for encoding the characteristics of the current curriculum contents; a user-mating module for

establishing the user connections and transferring the characteristic codes to the remote user site; a curriculum decoding module for receiving and decoding the characteristic codes to generate correspondent curriculum pages; a page synchronization module for returning and updating the curriculum pages for the user; and a remote communication module at each  
5 site for providing oral intercommunicating on the curriculum pages through audio/video communication of the users.

According to the invention, a learning method for providing local learning and remote online speech learning through a computer network includes the following steps. First, the user chooses a curriculum topic for speech learning from a curriculum database.  
10 Then, establishing a user connection between the local user and an online user according to the user status; encoding the curriculum content characteristics and transferring the codes to the remote user site. At the remote user site, decoding the characteristic codes to generate correspondent curriculum pages; and returning and updating the curriculum pages to the connected users. Finally, providing oral intercommunication via audio/video signal  
15 interchange for the users to practice the curriculum contents.

The learning system and method integrating local learning and remote user online speech learning according to the invention synchronizes the curriculum contents for the users to learn. The user can choose his or her favorite topic and request to establish online communication with a companion on the network who likes the same topic so as to increase  
20 the interests and funs of learning. It improves the learning efficiency and also helps checking of the learning achievement so that the users can know their insufficiencies and improve their further learning.

### **BRIEF DESCRIPTION OF THE DRAWINGS**

The invention will become more fully understood from the detailed description  
25 given herein below. However, this description is for purposes of illustration only, and thus is not limitative of the invention, wherein:

FIG. 1 is a block diagram of a language learning system of the invention that

integrates local and remote online users for real-time speech learning through a network;

FIG. 2a is a main flowchart of a language learning method of the invention that integrates local and remote online users for real-time speech learning through a network;

FIG. 2b is a flowchart of a language learning method of the invention in checking  
5 the learning achievement;

FIG. 2c is a flowchart of a language learning method of the invention in connecting the online users; and

FIGS. 3A to 3E are examples of intercommunication pages in an embodiment of the invention.

## 10 DETAILED DESCRIPTION OF THE INVENTION

As shown in FIG. 1, a language learning system and method of the invention integrates a local site 110 and a remote site 120 through a network 50. The local user and the remote user take online speech learning and intercommunication via a remote communication module 115 at each site. The language learning system includes the  
15 following components:

- 1) a curriculum database 111 for storing multimedia contents (text and pictures, etc.) of at least a curriculum topic for the users to refer during talking;
- 2) a local learning module 112 for getting correspondent contents from the database 111 according to the curriculum topic selected by the user;
- 20 3) a curriculum coding module 113 for coding the characteristics of the current curriculum contents based on the user's learning history and consensus; the curriculum coding module 113 encodes the curriculum contents in order to transfer through the network 50;
- 4) a user-mating module 114 for establishing a user connection based on the user selection from a user status list 116 provided by the system, and transferring the characteristic

- codes from the local site 110 to the remote site 120; the user-mating module 114 includes a user management unit for maintaining a list of registered users and generating the user status list 116 that includes labels of user status as “busy”, “idle” or “offline”, and labels of user categories as “teacher” or “student”; the online users can
- 5 choose their companions for speech learning according to the user categories; the user management unit also provides reservations that a user can send a reservation request for a user in talking so as to establish intercommunication after the being-reserved user finishes the talking; or, to be informed of being reserved if the user is originally offline, and then to be connected for intercommunication;
- 10 5) a curriculum decoding module 121 at the user site for receiving and decoding the characteristic codes to generate correspondent curriculum pages;
- 6) a page synchronization module 122 for returning and updating the curriculum pages for the connected users; and
- 7) a remote communication module 115 at each site for providing oral intercommunicating
- 15 on the curriculum pages through audio/video communication of the users.

The learning system further includes a achievement-checking module, connecting with the remote communication module 115 for comparing the speech waveforms of the user’s speech to the waveform of correspondent speech data in the database 111 so as to provide an achievement result of learning.

- 20 FIG. 2a is a main flowchart of a language learning method of the invention that integrates local and remote online users for real-time speech learning through a network. The method includes the following steps. First, the user chooses a curriculum topic for speech learning from a curriculum database (step 210). Then, establishing a user connection between the local user and an online user according to the user status (step 220);
- 25 encoding the curriculum content characteristics and transferring the codes to the remote user site (step 230). At the remote user site, decoding the characteristic codes to generate

correspondent curriculum pages (step 240); and returning and updating the curriculum pages to the connected users (step 250). Finally, providing oral intercommunication via audio/video signal interchange for the users to practice the curriculum contents (step 260).

FIGS. 3A to 3E are examples of intercommunication pages in an embodiment the invention. Please refer to FIG. 2b and FIG. 3A. The user can practice with the curriculum contents himself or herself before entering the network. After practicing the contents speech, the user can check the speech achievement as shown in FIG. 3B. The procedure of checking the user's learning achievement is shown in the flowchart of FIG. 2b. First, receiving audio signal of the user's speech (step 310). Then, comparing audio signals of the speech and the correspondent data from the database (step 320). Finally, generating the comparison result (step 330). After confirming the achievement, the user can enter the network by clicking the "network" button, as shown in FIG. 3A, for preparing intercommunication with other users. The procedure of establishing the user connection is illustrated in the flowchart of FIG. 2c. First, showing a user status list (step 410) as shown in FIG. 3C in which the users are labeled as "busy", "idle" or "offline", and "reserved" or not. The users are also classified into "student" or "teacher" (The teachers are users who have been certified through a certification process). Then, the local user invites a connection with a remote user (step 420) as shown in FIG. 3D. Finally, the local and remote connection is established based on the invitation and the acceptance of the remote user (step 430). If the remote user is offline, a reservation can be made. After confirming the curriculum through connection with audio/ video signals, the users can proceed speech learning of the curriculum contents. The system encodes the content characteristics and sends to the remote user site where the contents are decoded and retrieved into curriculum pages. The pages are returned and updated for the users to refer. Then, the users take online talks on the curriculum pages through audio/video communication (as shown in FIG.3E). The process increases the interests and funs of learning. It improves the learning efficiency of users who talk on the specific curriculum topics.

The invention being thus described, it will be obvious that the same may be varied in many ways. Such variations are not to be regarded as a departure from the spirit and scope of the invention, and all such modifications as would be obvious to one skilled in the art are intended to be included within the scope of the following claims.